

ABSTRACT OF THE DISCLOSURE

The invention provides isolated nucleic acids encoding human pancreatic islet-specific glucose-6-phosphatase proteins and nucleic acids having diagnostic, preventive, therapeutic, and other uses. These nucleic acids and proteins are useful for diagnosis, prevention, and therapy of a number of human and other animal disorders. The invention also provides antisense nucleic acid molecules, expression vectors containing the nucleic acid molecules of the invention, host cells into which the expression vectors have been introduced, and non-human transgenic animals in which a nucleic acid molecule of the invention has been introduced or disrupted. The invention still further provides isolated polypeptides, fusion polypeptides, antigenic peptides, and antibodies. Diagnostic, screening, and therapeutic methods utilizing compositions of the invention are also provided. The nucleic acids and polypeptides of the present invention are useful as modulating agents in regulating a variety of cellular processes, including those which are aberrant in diabetes and other disorders associated with pancreatic dysfunction. The invention includes methods of modulating secretion of pancreatic hormones such as insulin and glucagon, and these methods can be used to alleviate disorders (e.g., diabetes and hyperinsulinemia) associated with aberrant secretion of these hormones.